

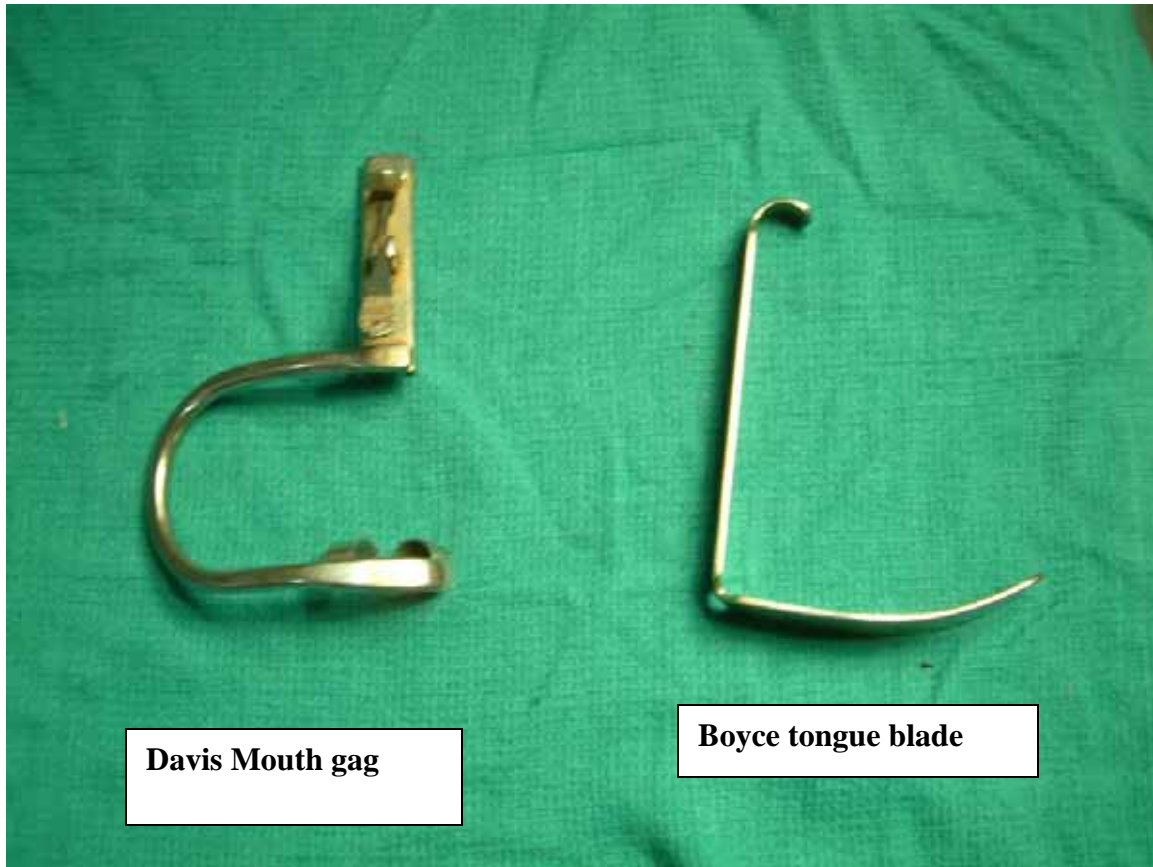
Common E.N.T. Surgical Instruments.

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We will be seeing some of the common instruments used in ear/nose/throat surgeries.

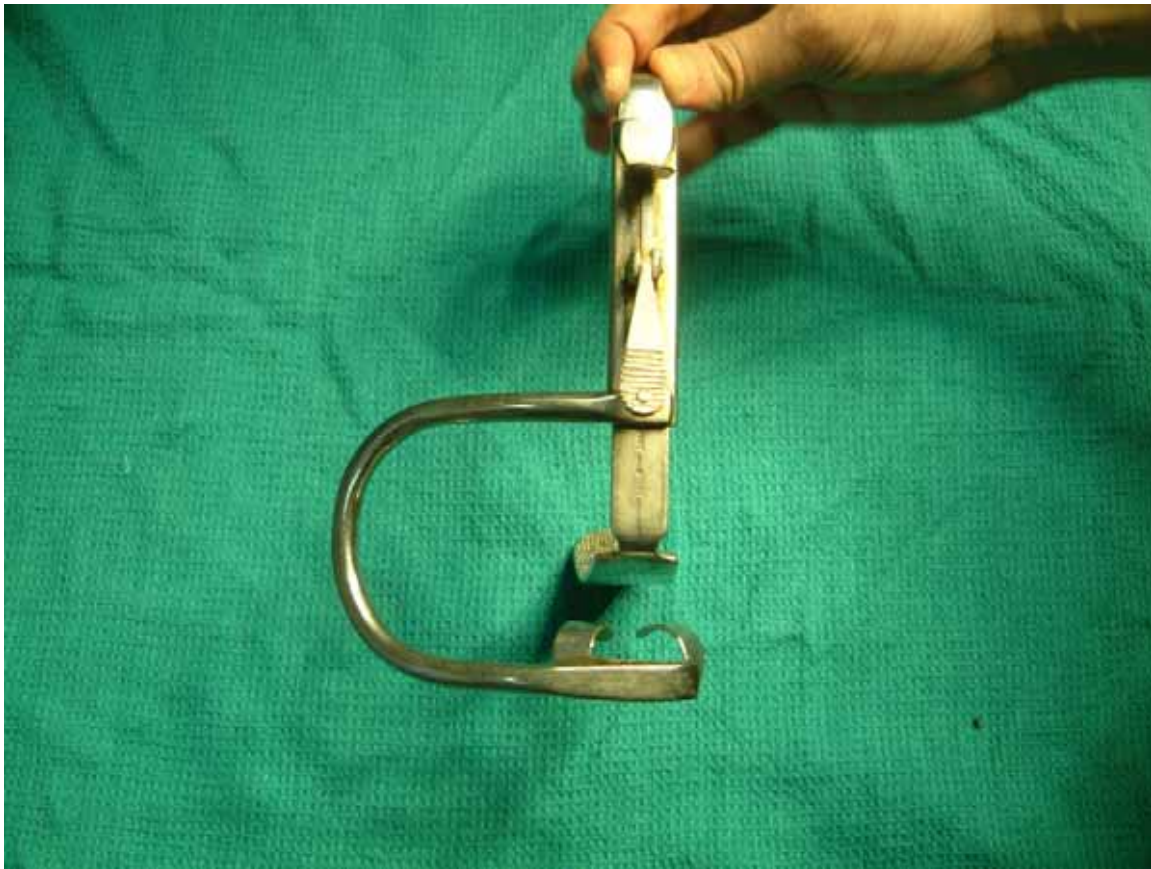
Tonsillectomy Instruments:

Boyle's Davis Mouth gag:



These two are commonly used instruments in tonsillectomy. The Boyce's tongue blade slides into the Davis mouth gag smoothly. It is used to keep the patients mouth open during tonsillectomy surgery / or any other oral

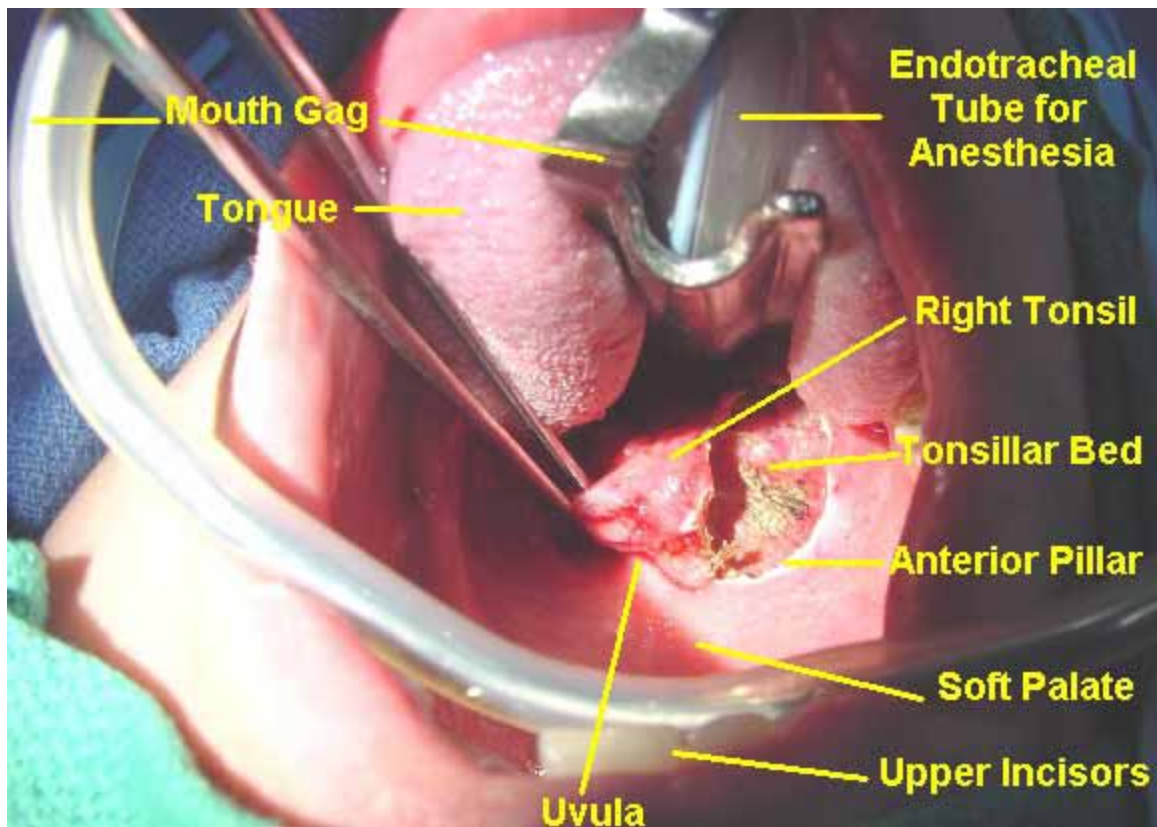
surgery. The size of the tongue blade varies from patient to patient. The rough size of the blade is chosen by keeping the blade across the patient's chin and oral cavity. The length of the blade should not exceed this distance. The gag is held in position with the help of an M stand or a Draffin's Pod.



(This is how the assembled gag looks like)

The patient is placed in Rose position with sand bag behind the shoulders and neck hyper extended. The advantage of this position is that there is absolutely no risk of aspiration of blood and secretions into the lungs. This position was first described by one Sister by name Rose hence the name.

This picture shows the surgeons view of the oral cavity in Rose position.



The tonsil is held using a Vulsellum or a Dennis Brown tonsil holding forceps. The advantage of this instrument is that it causes very little trauma to the tonsillar tissue at the same time holding it firmly. In fact the Dennis Brown forceps has an incomplete ring over its end facilitating the easy passage of Eves snare through it.

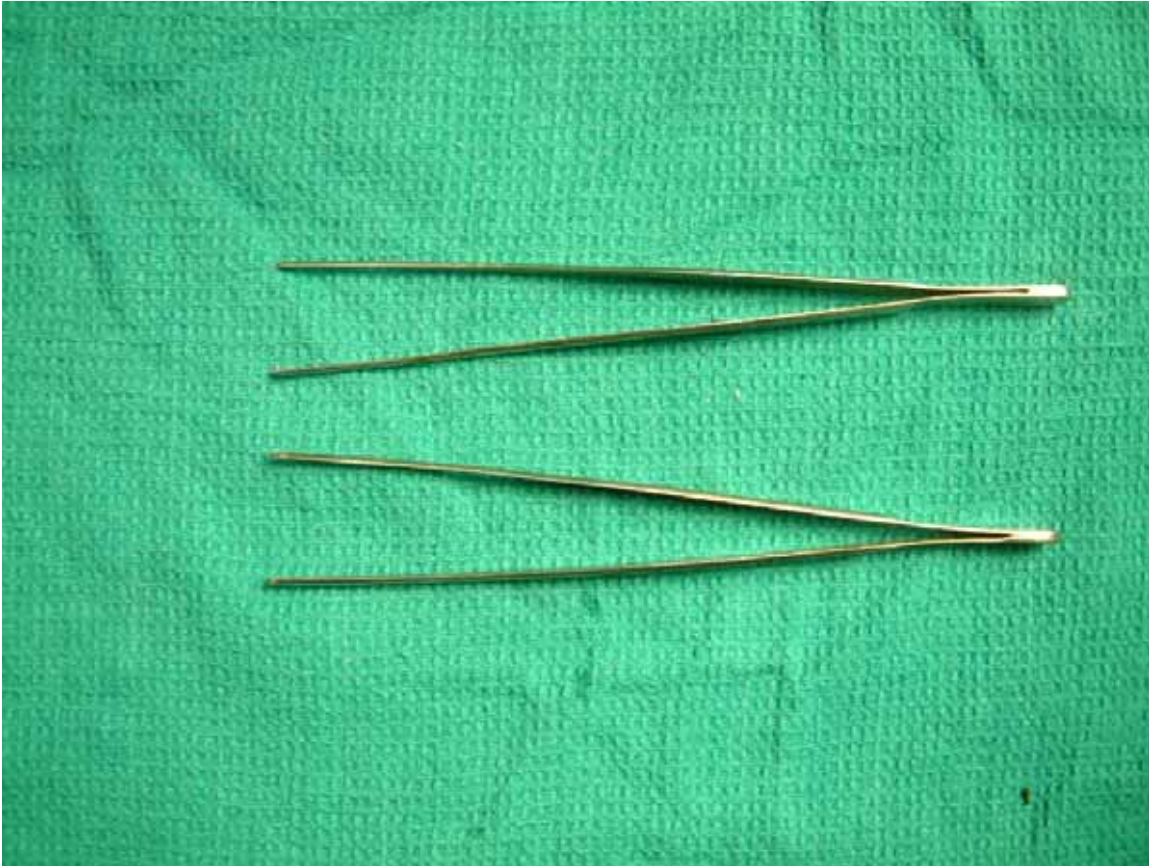
To facilitate the separation of tonsil from its capsule a Mollison's pillar retractor with dissector is used.



Mollison Pillar retractor with dissector

This instrument is used to retract the anterior pillar for better visualization of the tonsil. Its dissector end can be used to dissect the tonsil out of its bed.

The mucosal incision is made just close of the anterior pillar with the help of Waugh's Tenaculum forceps. It more or less resembles a toothed forceps i.e. A little bit longer and finer.

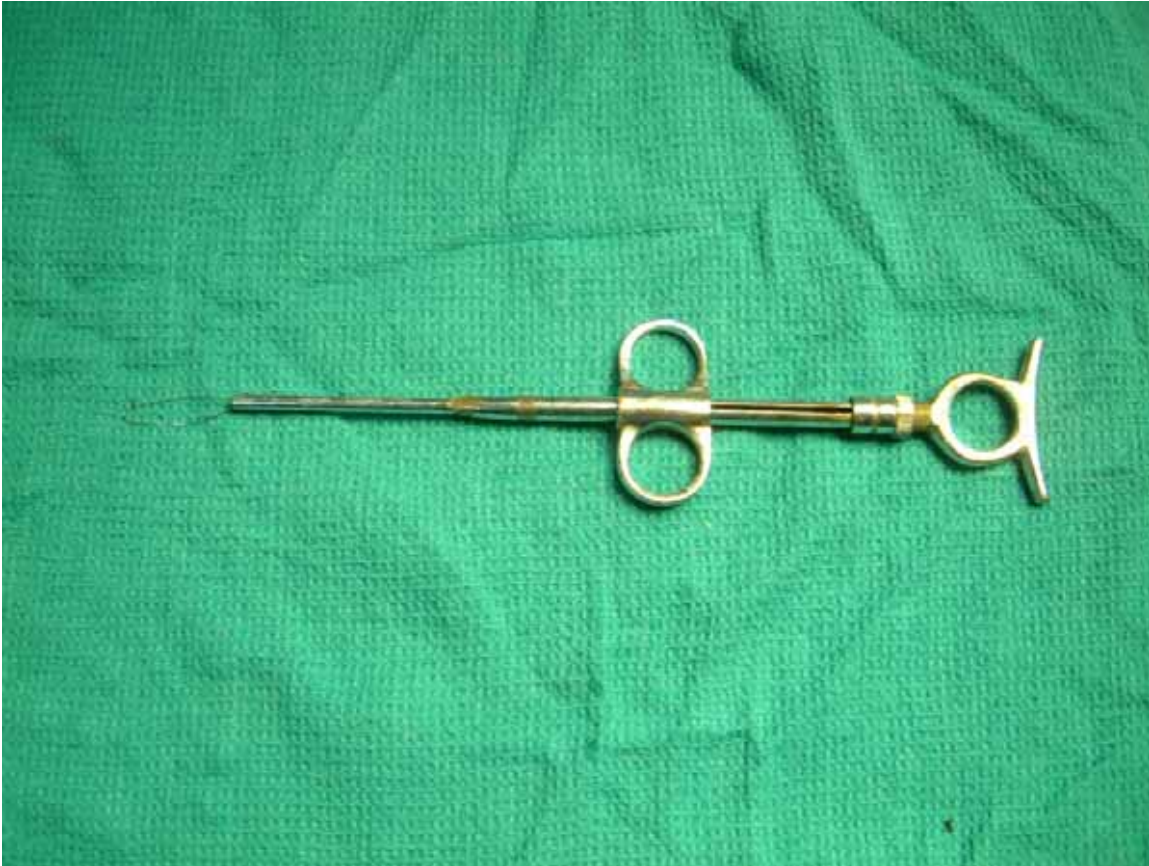


Waugh's Tenaculum forceps

Sometimes the tonsils may be so fibrosed a scissor may be needed of dissection. A Metzenbaum scissors could serve this purpose well. There are two types of scissors one is a straight and the other is a curved one. These scissors are designed to be slightly longer to provide a reach into the oral cavity. The mucosal incision can also be made using these scissors. The same scissors can be used to cut the silk after ligating the bleeding points.

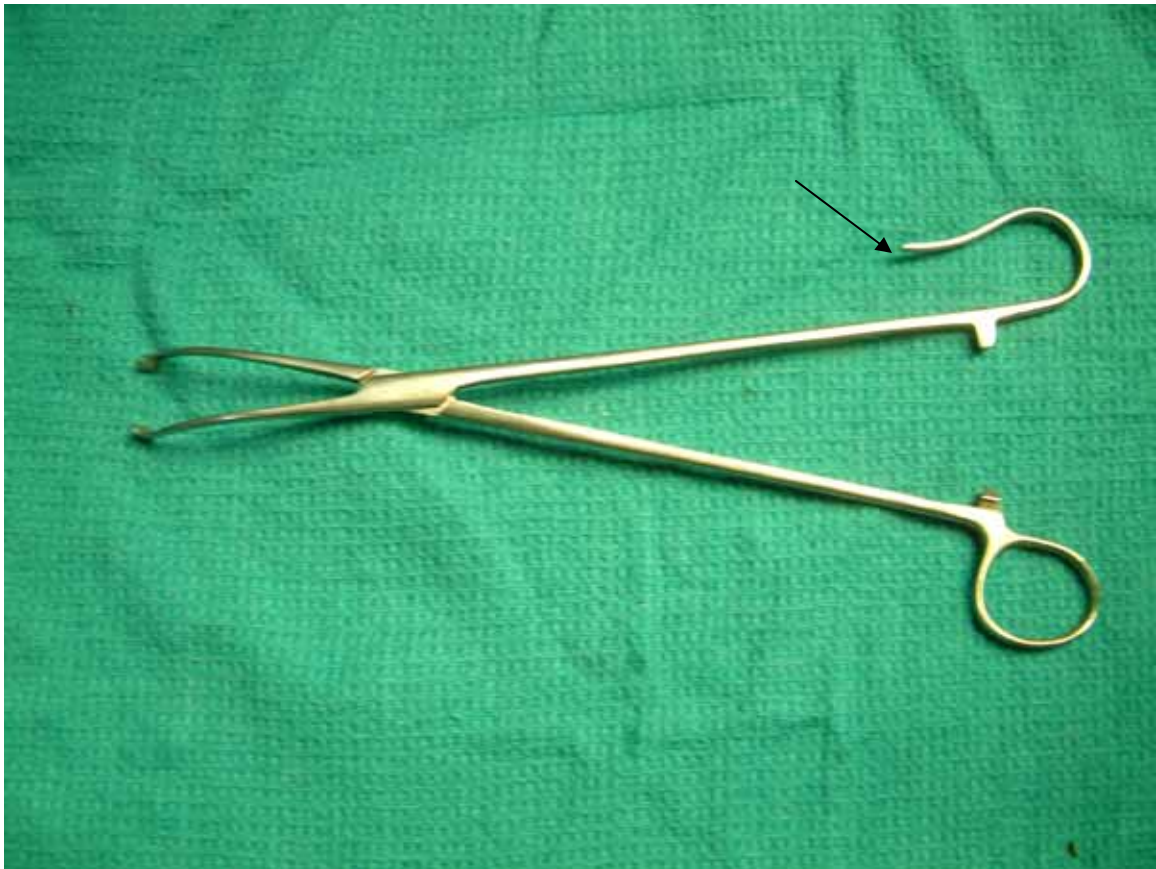


Metzenbaum scissors



Eves Snare

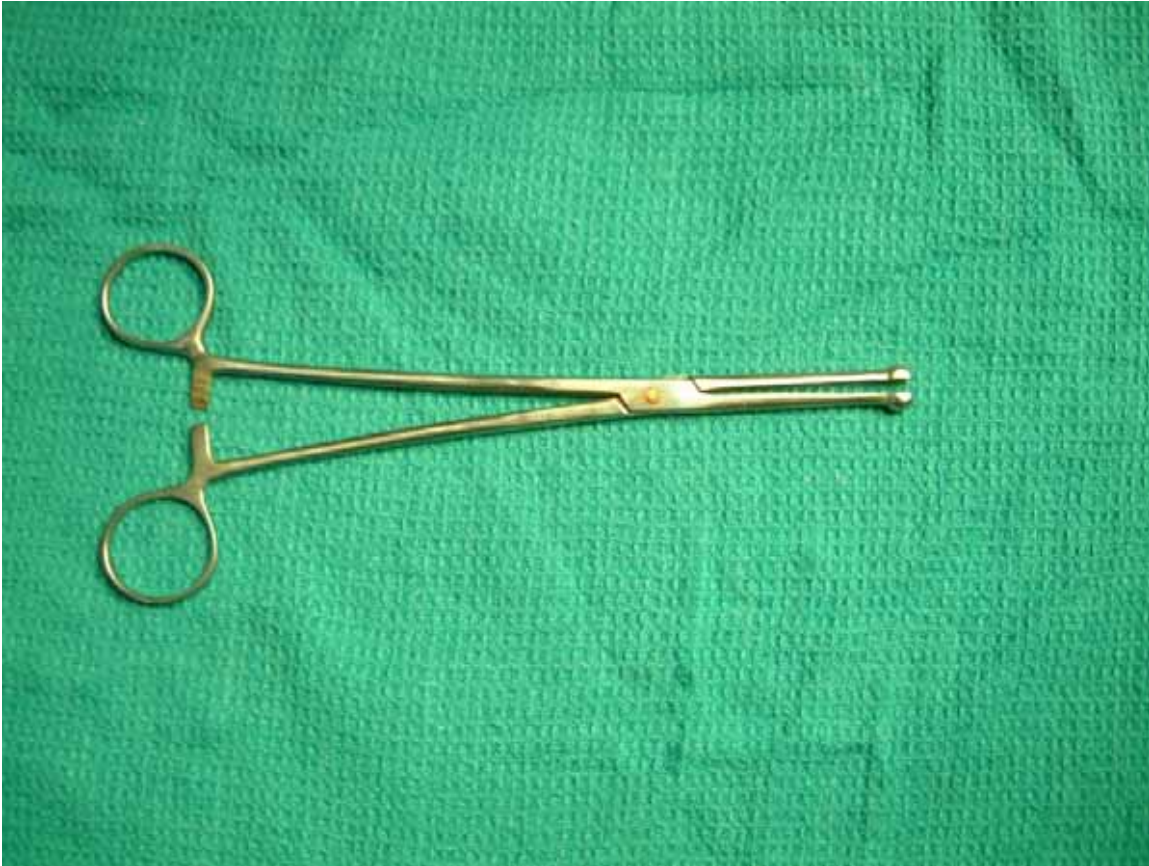
Eve's snare is used to snare the tonsil. Snaring the tonsil crushes the pedicle thereby reducing the bleeding. The crushed tissue also releases coagulation factors thereby hastening the coagulation. This snare was designed by a female E.N.T. surgeon Eve.



Dennis Brown Tonsil holding forceps 1

The incomplete ring is shown with the help of a pointer. Eve's snare can be passed through this ring facilitating the easy use of the snare.

The remnant tonsils any can be held with Muck's button forceps before using the snare.



Muck's Button forceps

Secretions if any and blood from the oral cavity can be cleared using a Yankur's suction. This suction tip has a smooth curvature facilitating easy insertion into the tonsillar fossa. Its tip is guarded to prevent trauma to the oral mucosa.



Yankur's suction

Bleeders if any can be ligated using silk. The bleeding points can be caught using a Straight and Curved Brickett artery forceps. The knot around the bleeding point can be tightened using a Negus knot adjuster.



Brickett's forceps



Negus knot adjuster

Adenoidectomy could be performed using St.Clair Thompson adenoid curette. It is held like a dagger in the operating hand. There are 2 types of adenoid curettes i.e. one with a cage and other without it. If one with cage is available the cage can be dismantled and used as a curette without cage. The cage holds the adenoid tissue preventing aspiration into the lungs.



St. Clair Thompson adenoid curette with cage: Cage dismantled.

Adenoid curette without cage is used to remove remnant adenoid tissue as well as tubal tonsils since it causes minimal trauma to the tissue. Using the curette with cage to remove the tubal tonsil may traumatize the pharyngeal end of the tube causing permanent damage to the middle ear ventilation.



Adenoid Curette without cage.

Nasal Instruments:

Thudichum's nasal speculum is a commonly used instrument to visualize the nasal cavity. It is usually held in the non dominant hand leaving the dominant hand free for manipulation.



Thudichum's Nasal speculum

Tilley's nasal forceps is used to pack the nose in patients with epistaxis, as well as to pack the nose following nasal surgeries.



Tilley's nasal dressing forceps

The angulation of this forceps helps in better visualization of the nose during packing.

In septal surgeries to remove the cartilaginous septum a Ballanger's swivel knife is used.



Ballanger's Swivel knife

The tip of the knife rotates 360° around itself thereby facilitating complete incision of the cartilaginous septum. The remnants of the septum any as well as the bony portion of the nasal septum can be removed using a Luc's forceps.

It has a small hole in its tip. This helps it to prevent crushing of tissues while taking biopsy hence crush artifacts are avoided.

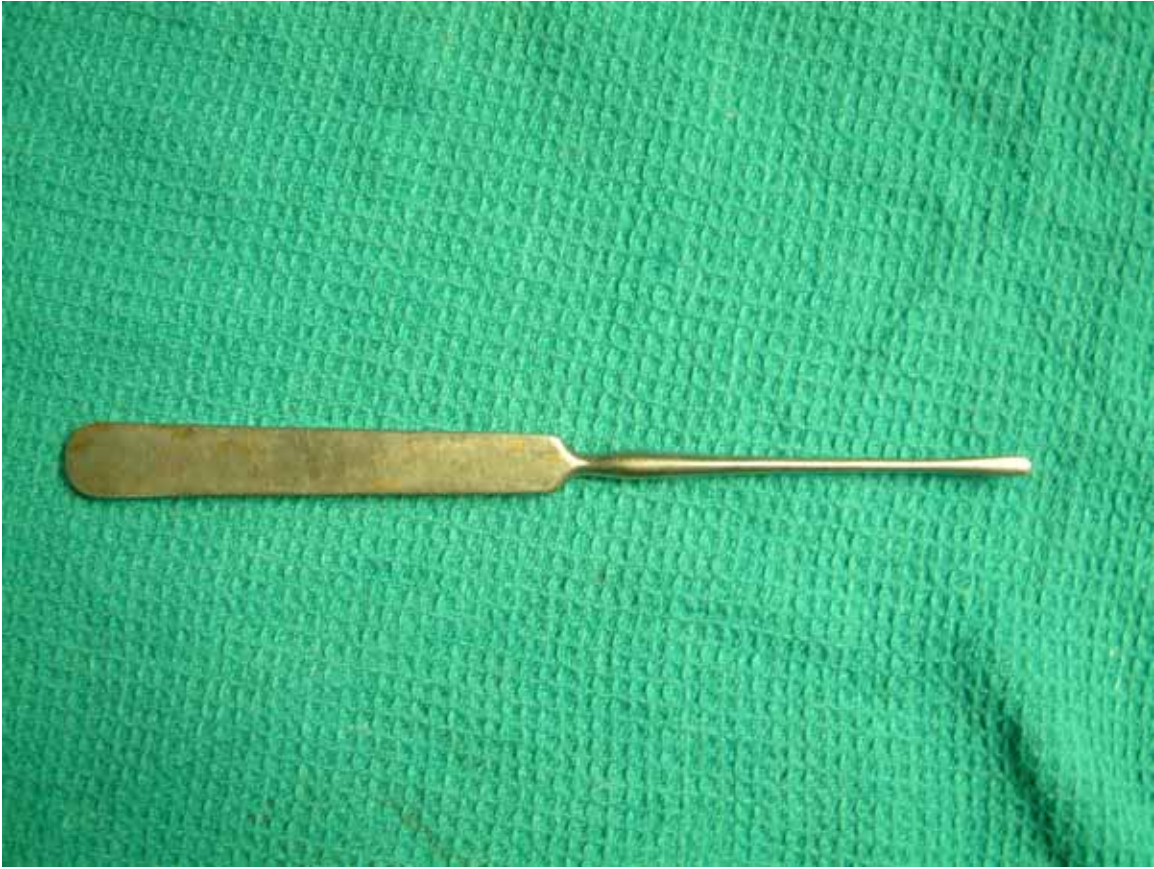


Luc's forceps.

The uses of Luc's forceps are

1. In septal surgeries.
2. To take biopsies.
3. To remove polyps from the nasal cavity.

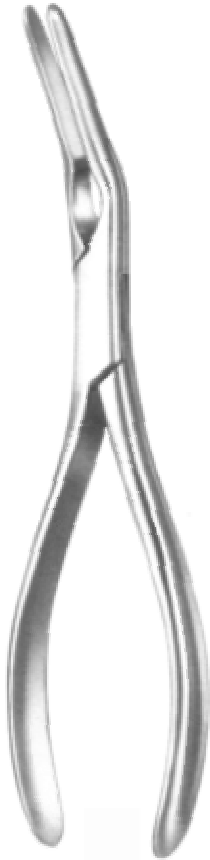
The mucoperichondrium is elevated using a Freer's septal elevator.



Freer's septal elevator

In reduction of fractured nasal bones two forceps are used.

1. Asch forceps
2. Walsham forceps.



This is Asch forceps used in disimpacting and repositioning the fractured nasal septum.



This is a Walsham forceps used to reduce a fractured nasal bone.

To remove bony spurs of nasal septum a Killian's Bayonet shaped gouge is used.



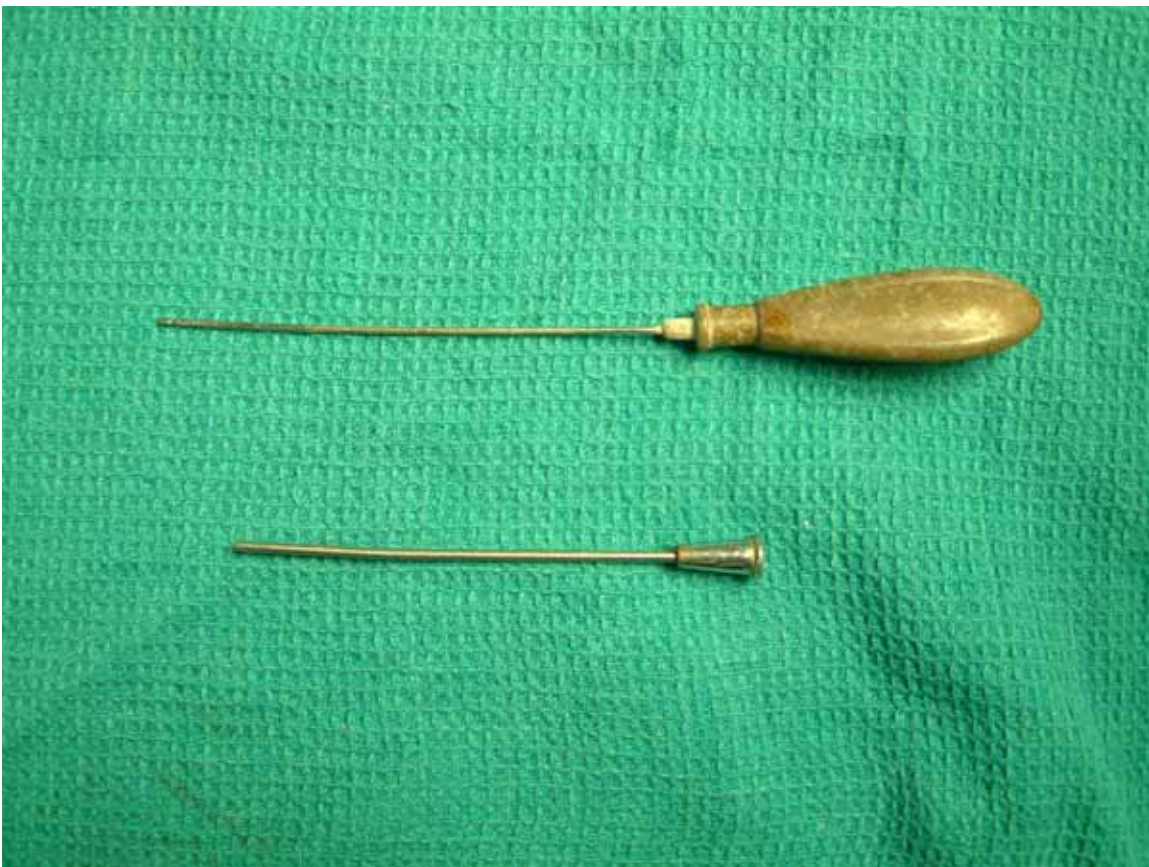
Killian's Bayonet shaped gouge.

The unique shape of this gouge helps in removing bony spurs from the nasal septum. The angulation provides good visualization of the surgical area. A mallet is used along with this gouge to remove the bony spur.



Mallet

Antral lavage is performed to clear the maxillary sinus antrum. It is performed using Litchuwitz trocar and canula.



Litchuwitz trocar and canula

In all nasal surgeries the Killian's long bladed self retaining nasal speculum is used to visualize the interior of the nose. Its self retaining nature frees up both the hands for surgery.



Killian's long bladed self retaining nasal speculum

After doing the Antral puncture a Higginson's syringe is used to wash the antrum. It has a bulb which helps to suck the saline and there is a one way valve which prevents back flow. Pressure is applied to the bulb to eject the fluid from the syringe.



Higginson's syringe

To examine the tympanic membrane the external canal must be straightened first. This is done using a Hartmann's aural speculum.



Hartmann's aural speculum.

Before the advent of electric drills mastoid surgeries were performed using mallet and gouge. The commonly used gouge was Trautmann's Mastoid Gouge.

Its edge is sharp and rounded. This sharp rounded structure helps it to chisel the mastoid cortex with precision.



Trautmann's Mastoid Gouge

A mallet known as Lucae mallet is used to strike the gouge.



Lucae mallet

While doing mastoidectomy the antrum is identified using a Maceven's antrum seeker. It also has a curette at one end in addition to the seeker. This curette can be used to widen the aditus.



Maceven's antrum seeker

While doing mastoid surgery the soft tissue over the mastoid cortex is kept retracted using mastoid retractors. They are of two types: Mollison's self retaining haemostatic mastoid retractor and Jenson's self retaining haemostatic mastoid retractor.



Mollison's self retaining haemostatic mastoid retractor



Jenson's self retaining haemostatic mastoid retractor.

The periosteum over the mastoid cortex is stripped using a Jenson's periosteal elevator.



Jenson's periosteal elevator

Before the advent of electric drills mastoid surgery was performed using Lempert's curette of various sizes. It is held in the hand like a dagger.



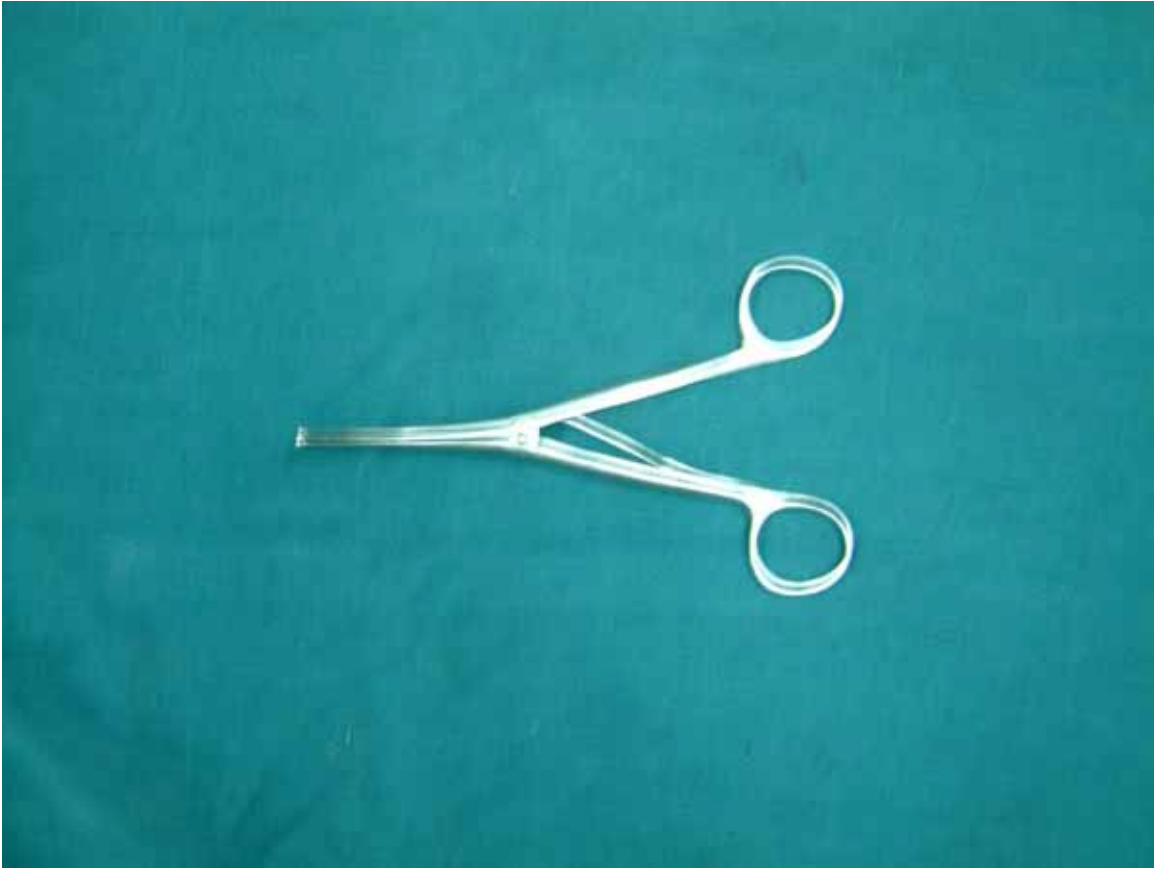
Lempert's curette

Foreign bodies in the ear can be removed using a Hartmann's forceps.

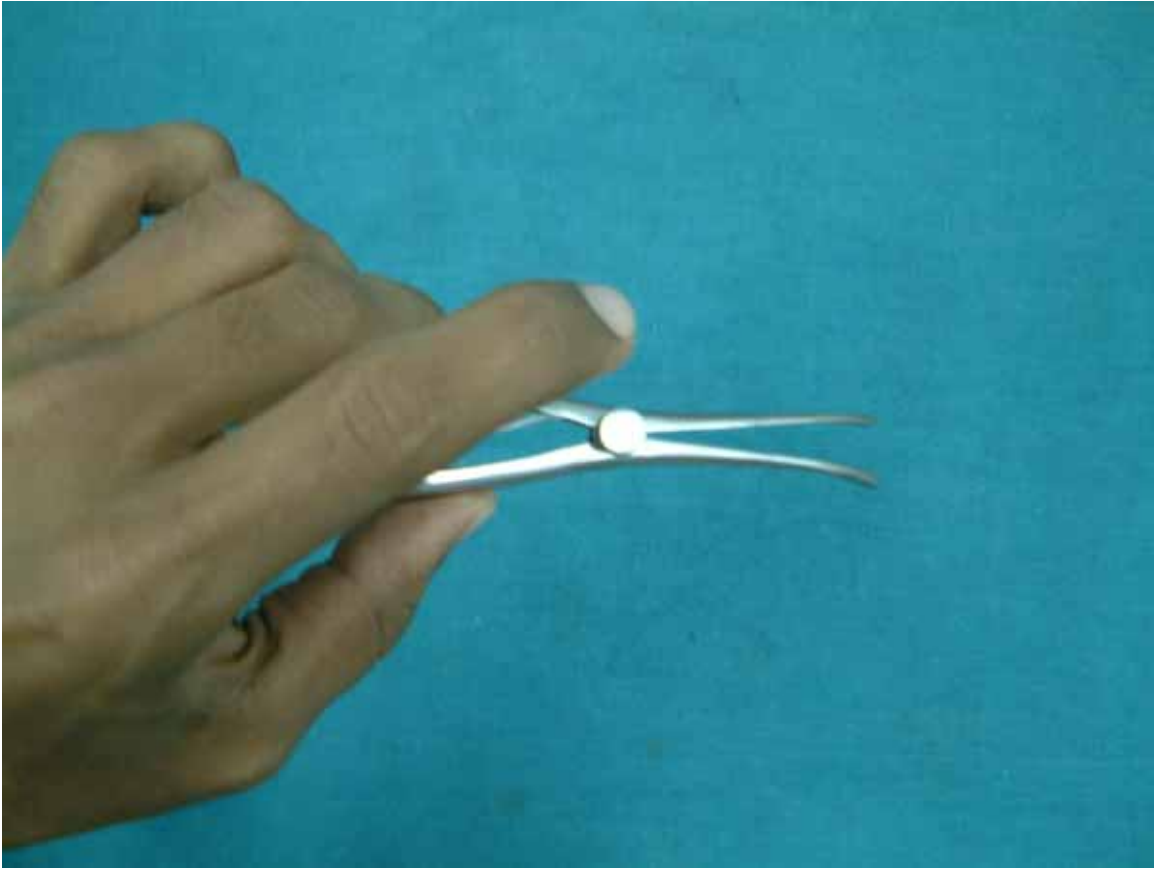


Hartmann's forceps

While performing tracheostomy the soft tissues of the neck are held apart using a tracheal dilator. The same instrument can be used to stabilize the trachea before making the incision.



Trauseau's Tracheal dilator



Method of holding Trauseau's Tracheal dilator

In the examination of oral cavity it is imperative on the part of the examiner to depress the tongue. This can be done using a Lac's tongue depressor. It is usually held in the non-dominant hand leaving the dominant hand free.



Lac's tongue depressor

Usually mirrors are used to examine the larynx and post nasal space. The laryngeal mirror is a straight mirror while post nasal mirror is small and angulated one. The angulation helps in visualization of the post nasal space which is otherwise difficult to examine with naked eyes. What is seen is only a reflected image seen through a mirror.



After performing tracheostomy a metal or plastic tracheostomy tube is introduced. The commonly used metal tubes are Fuller's biflanged metal tracheostomy tube made of German silver, and Jackson's metal tracheostomy tube.

Fuller's biflanged tracheostomy tube has 2 parts i.e. one outer tube which is shorter and the other inner tube which is longer. The longer inner tube facilitates easy cleaning of crusts if any. It has also a small speaking valve which helps in speaking (when tracheostome is closed) and also helps in decannulation procedure. (When the tracheostomy tube is spiggeted breathing is still possible through the speaking valve).



Fuller's biflanged metal tracheostomy tube showing its two parts i.e. outer tube which is showing above (having two flanges) and the longer inner tube which is shown below. The only disadvantage of this tube is that patient cannot be connected to a ventilator if this tube is used. The main advantage of tracheostomy is not only to by pass the obstruction but also in reducing the dead space. Bronchial toileting can also be performed through this tube.



Fuller's biflanged metal tracheostomy tube (assembled)

Commonly used non metal tracheostomy tubes are either made of plastic or portex. These two tubes are single and it does not have a speaking valve. One advantage of this tube is that patient with this tube can be connected to a ventilator for assisted ventilation. The problem starts when decannulation is planned because it cannot be spiggeted as it does not have a speaking valve. Hence if decannulation is planned the tube must be changed in to Fuller's one.



Ramson's Tracheostomy tube